ABSTRACT OF THE DISCLOSURE:

A nutritional and energy reduced fiber-based baking ingredient having a reduced glycemic index is intended for use in the baking industry, and comprises from 20% to 30% crude protein, from 50% to 80% fiber, up to 15% crude fat, and up to 2% of additional nutritional components chosen from the group consisting of lysine, amino acids, nutritional minerals, and mixtures and combinations. The reduced glycemic index fiber-based baking ingredient is derived from cereal grains chosen from the group consisting of wheat, barley, rye, corn, rice, oats, flax, and mixtures and combinations; and is initially derived as a by-product from the brewing or distilling industries. Breads, cookies, muffins, waffles, and nutribars, may be baked using the baking ingredient.